Introduction to Embedded Systems

Embedded systems control many things in our daily life. Energy-efficient refrigerators, elevator controls, and advanced driver assistance systems are just some examples. Embedded systems also control processes in industrial environments and are used to detect and prevent system failures. This lecture gives a general introduction to the topic of embedded systems. It introduces basic concepts and points out important differences to "normal" computer systems. This lecture prepares students for advanced lectures of the Embedded Software Laboratory that cover safety, reliability, formal methods and dynamic systems in detail. This lecture is targeted at all students that do not want to limit themselves to understanding PCs but also want to know how, for example, engine control units and production control systems work.

Topics covered in this lecture are:

- Microcontroller
- Programmable logic controllers (PLCs)
- PLC programming languages
- Android
- Data buses
- Real-time requirements
- Real-time operating systems
- Characteristics of embedded software design
- Teasers of advanced lectures of the embedded software laboratory

The lecture will be held in **German** this semester. There are English recordings from summer semester 2012 which will be made available using the L2P. The content of this year's lecture will be similar. The exam will be provided in English and German; answers can be given in both languages as well.

News

All news will be published in the L2P learning room during the semester.

Dates

- Tuesdays: 12:15 - 13:45 AH III
- Thursday: 16:15 - 17:45 AH III

Exam dates

- We 29.07.2015, 14:00 bis 17:00
- We 19.08.2015, 10:00 bis 13:00

Video recordings

The video recordings can be found in the L2P learning room.

Tutor

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Last update: **2015/04/10 11:45**